

Clinical Laboratory Test Update

Effective Date: Tuesday, February 14, 2023

NT-proBNP

UCHealth Memorial Hospital Laboratories will convert to a new NT-proBNP assay with improved operational, analytical and clinical performance.

TEST NAME	NT-proBNP
Lab Test Code	LAB4311
Acceptable Specimen	Preferred: Lithium Heparin with Gel Acceptable: Gold SST or Red Top with Gel
Reportable Range	20.0 to 300,000 pg/mL
Specimen Stability	Room Temp: 24 hours Refrigerated (2-8 °C): 4 days
Performed	Sunday through Saturday
CPT	83880

The new NT-proBNP assay has updated reference intervals. These ranges are in alignment with ICON age-dependent cutoffs for improved specificity and eliminating interference from Biotin. The general cutoff for heart failure rule-out in outpatients is 125 pg/mL, but not definitive for every patient. See updated reference intervals and interpretative comments below.

Outpatient Setting

For ambulatory patients presenting to outpatient facilities with clinical suspicion of heart failure not previously diagnosed and at least one sign, symptom or risk factor for heart failure, test results should be interpreted as indicated in the table below.

Result (pg/mL)	Age (Years)	Interpretation
<125	All	Negative: Heart Failure Unlikely
≥125	All	Consider Heart Failure as well as other causes of NT-proBNP elevation.

Emergency Department (ED) Setting

For patients presenting to Emergency Department/acute settings with acute or worsening dyspnea and clinical suspicion of heart failure, NT-proBNP test results should be interpreted as indicated in the table below:

Result (pg/mL)	Age (Years)	Interpretation
<300	All	Negative: Heart Failure Unlikely
≥300 to <450	22-49	Gray Zone: Result Indeterminate – Consider other causes of NT-proBNP elevation.
≥300 to <900	50-74	
≥300 to <1800	≥ 75	
≥450	22-49	Positive: Heart Failure Likely
≥900	50-74	
≥1800	≥ 75	

The 300 pg/mL age-independent rule-out cutoff can be used to identify ED patients in whom heart failure is unlikely and who need further investigations for non-cardiac causes of dyspnea.

Mild natriuretic peptide elevations can be caused by non-heart failure conditions. Test results in the gray zone should be considered in the context of the clinical presentation and physical examination in order to correctly identify or exclude heart failure. Natriuretic peptides values in the gray zones could also be caused by several conditions other than heart failure. Clinical conditions such as acute coronary syndrome, cor pulmonale, pulmonary embolism, pulmonary hypertension, sepsis, stroke, and renal dysfunction will elevate NT-proBNP levels; Patients with heart failure and significant obesity, flash pulmonary edema, cardiac tamponade or pericardial constriction may present with reduced NTproBNP levels.

For any questions about this test update, please contact:

Memorial Central & Pikes Peak Regional Hospital

Angelina King, MLS (ASCP), Laboratory Manager, Angelina.King@uchealth.org

Memorial North & Children's Hospital

Jennifer McElroy, MLS (ASCP), Laboratory Manager, Jennifer.McElroy@uchealth.org

Issued: 2/13/2023